Portland area Stream Investigation, Stabilization & Design Workshop

With an emphasis on Innovative Approaches to Stream Stabilization and Restoration

July 29-31, 2008

U.S. Army Corps of Engineers-Portland District
Robert Duncan Plaza, 333 SW First Avenue
3rd Floor, Classrooms 3A and 3B
Portland, OR

WORKSHOP OVERVIEW AND GOALS

Develop a philosophy of bank stabilization design that emphasizes an understanding of the stream as a complex inter-related system that encompasses both local and system-wide processes and problems.

Apply the concepts of grade control and the Channel Evolution Model (CEM).

Get tips on how to develop appropriate project goals.

Learn about innovative bank protection methods and how to choose the appropriate method or combination of techniques.

Discuss the importance of project constructability, monitoring, and maintenance

Learn how to read a stream and analyze a streambank erosion problem with an experienced practitioner.

Perform a series of in-the-field site analyses, understanding the role of project goals in the development of conceptual flow analyses, and designing stabilization plans that relate to the project performance goals.

Receive a CD of useful handouts, visuals, and a comprehensive glossary.

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AGENDA

DAY 1 — Tuesday, July 29, 2008

9:00	-	9:10	Student and Teacher Introductions
9:10	-	10:15	The Philosophy of Restoration (Goal and Function Based Design), Project Planning, Monitoring, & How Streams Dissipate Energy
10:15	-	10:30	**BREAK**
10:30	-	12:00	The Channel Evolution Model (CEM) & Environmentally Sensitive Grade Control
12:00	-	1:00	**LUNCH**
1:00	-	2:00	CASE STUDY - Putting it All Together – The McKinstry Creek Complete Channel and Floodplain Realignment Project
2:00	-	3:15	LPSTP & LFSTP & the Missouri River @ Vermillion, SD.- plus stone gradation and filter information
3:15	-	3:45	Onondaga Creek @ Nichol Road Br.-2,700 Poles Planted in 6 hrs
3:45	-	4:00	**BREAK**
4:00	-	4:15	Chautauqua Creek Ice Damage Reduction project with SSBW
4:15	-	5:00	THE ABRUPT PLANFORM MODIFIERS - Five methods to replicate small radius 90 degree bends, impinging flow situations, and bends that exit into the middle of the next bend (no crossing in between) {Regular, Wrong-Way and Twin Spin Boil-Up Pools; Angle Slams and Grand Slams}.

DAY 2 — Wednesday, July 30, 2008

9:00 - 5:00 Field Trip: Site Analyses of Stream Sites

- Development of project performance goals (function based)
- Analysis of existing, historical, and future flow and erosion processes and conditions
- Flow visualization of proposed project (based on project goals)
- Development of several stream stabilization conceptual designs
- Analyze overall effects of conceptual design on the stream system and riparian corridor

Site 1	TBA
Site 2	TBA
Site 3	TBA

DAY 3 Thursday, July 31, 2008

9:00	-	9:10	Announcements and Housekeeping
9:10	-	10:15	How to Conduct a Field Investigation of a Streambank Erosion Problem a. Fundamentals of Fluvial Geomorphology b. How to Read a Stream
10:15	-	10:30	**BREAK**
10:30	-	11:15	Rock Vanes, J-Hooks, & Bendway Weirs
11:15	-	12:00	Recently Developed Innovative Techniques to Restore Function to Aquatic and Terrestrial Areas-Includes the Eighteenmile Creek Restoration Video
12:00	-	1:00	**LUNCH**
1:00	-	2:10	Importance of Stream and Riparian Corridors, Riparian Zone Impacts, Issues, and Current Status – **Fischer**
2:10	-	3:15	Identifying the Ecological Functions of Buffer Strips—Importance to Birds, Mammals, and Herpetofauna—**Fischer**
3:15	-	3:30	**BREAK**
3:30	-	4:15	Buffer Strips – Importance, Types, How they Function, Relationship to Corps of Engineers Programs, other Regional/National Programs—**Fischer**
4:15	-	4:45	Corps of Engineers Ecosystem Restoration Opportunities, Programs and Actions Involving Buffer Strips– **Fischer**
4:45	-	5:00	Wrap-Up Workshop